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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,740	12/31/2001	Young-Hwa Kim	H49.12-0002	4461

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,740	Applicant(s) KIM ET AL.	
	Examiner Jeremy R. Pierce	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on December 29, 2003 has been entered. Claims 1 and 3 have been amended. Claims 11-14 have been cancelled. New claims 15-17 have been added. The amendment is sufficient to withdraw the rejections set forth in section 7 as anticipated by Neal et al. because Neal et al. do not teach the plates to be non-overlapping. The amendment is also sufficient to withdraw the rejections set forth in section 8 as anticipated by Fortier et al. because Fortier et al. do not explicitly teach the glue to be providing a plurality of non-overlapping, polygonal guard plates.

Information Disclosure Statement

2. The information disclosure statement filed September 11, 2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically, Applicant has not submitted Documents AM, AN, AO, BM, BN, BO, CM, DL, FL, FM, and FN from the I.D.S., which are all foreign references cited on the PTO-1449.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gould et al. (U.S. Patent No. 5,200,263).

Gould et al. disclose a puncture resistant composite comprising a fabric substrate and a plurality of guard plate assemblies affixed to the top surface of the fabric in a spaced, non-overlapping manner to each other (Figure 8A). The first layer of material is the collection of guard plates while the second layer of material on the surface opposite the fabric substrate is the elastomer. Gould et al. also disclose the plates may have a polygonal shape (column 4, line 52). With regard to claims 4 and 5, the elastomer material fills the gaps between the plates, as seen in Figure 8A. With regard to claim 8, a third material in the form of another plate is joined to the second layer of elastomer, as seen in Figure 8A. With regard to claim 9, the elastomer would have higher friction than the metal platelets because they are designed to act as a bonding agent.

5. Claims 1-3, 8, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakanishi et al. (U.S. Patent No. 5,853,854).

Nakanishi et al. disclose a multi-layer structure comprising a base sheet and a rugged pattern of a predetermined shape adhered to the base sheet (column 2, lines 31-38). The base sheet may be a fabric (column 6, line 28). Various layers of elastomer material are pored on the fabric to provide the shaped patterns (see Figures

2A and 2B). With regard to claim 2, the second layer may completely cover the first layer (Figure 4A). With regard to claim 3, the second layer does not need to completely cover the first layer (Figure 4B). With regard to claim 8, a third layer may be added to the second (Figure 7A). With regard to claims 15 and 16, the elastomer is a printable material. With regard to claim 17, the elastomer material may comprise an epoxy resin (column 13, line 13).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 10, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. (U.S. Patent No. 4,810,559).

Fortier et al. disclose a protective web comprising a piece of fabric with a plurality of small platelets spaced on the fabric (column 1, lines 31-40). The platelets may be glued onto the fabric (column 1, line 44). The first material comprising the platelets would be the glue, and the second material would be the platelets themselves. Fortier et al. fail to teach that the glue would form the shape of a polygonal guard plates. However, Figure 3A shows the plates glued onto the fabric. The glue appears to be only present where the plates are present. Therefore, the glue would have the same area as the plates, and thus, also have the same shape of the plates. In gluing the

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plates onto the fabric, a person of skill in the art could either 1) apply the glue on the plates, and then stick the plates on the fabric, or 2) apply the glue onto the fabric and place the plates onto the glue. It would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the glue to the plates, thus giving the glue layer the shape of a polygonal plate in order to avoid making the fabric sticky and to save on the amount of glue used. With regard to claim 10, the platelets would inherently be more wear resistant than the glue because the platelets are placed on the fabric to supply wear resistance (Abstract), and would not be needed in the invention of Fortier et al. if the glue were capable of providing wear resistance. With regard to claims 15 and 16, glue is a printable material.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. in view of Neal et al. (U.S. Patent No. 6,035,438).

Fortier et al. do not disclose using a third material. Neal et al. disclose using epoxy resin and glass or aramid fibers onto ballistic resistant plates in order to increase its ability to absorb impact (column 4, lines 52-55). It would have been obvious to one having ordinary skill in the art to add epoxy resin and glass or aramid fibers onto the surface of the disks in Fortier et al. in order to increase the ability to absorb impact, as taught by Neal et al.

9. Claims 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fortier et al. in view of Neal et al. and further in view of Moureaux et al. (U.S. Patent No. 5,943,694).

The combination of Fortier et al. and Neal et al. do not teach the additional material, epoxy resin and glass or aramid fibers, to not completely cover the plate. The combination also does not teach that not all plates need to be covered with the additional material. Moureaux et al. teach that when a ballistic resistant material is reinforced with another material, that the reinforcement need only be present in the areas where it is most needed (column 7, line 64 –column 8, line 3). It would have been obvious to one having ordinary skill in the art to cover some but not all of the plates of Fortier et al. and to partially cover other plates of Fortier et al. where protection is needed most with the epoxy resin and glass or aramid fibers in order to better protect vital areas and keep the garment lightweight by avoiding unnecessary coating.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al.

With regard to claim 9, Nakanishi et al. do not disclose that the second layer of material has a higher friction than the first material. However, Nakanishi et al. do disclose the properties of the elastomeric layers, such as hardness, elasticity, shock absorbing capability, luster, and satinizing can be adjusted according to the intended use (column 8, lines 33-36). It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the second layer have higher friction by adjusting the hardness, elasticity, shock absorbing capability, and luster of the two elastomeric materials in order to provide a material with better grip on the outside layers. With regard to claim 10, Nakanishi et al. do not disclose that the second layer of material is more resistive to wear than the first material. However, Nakanishi et al. do

disclose the properties of the elastomeric layers, such as hardness, elasticity, shock absorbing capability, luster, and satinizing can be adjusted according to the intended use (column 8, lines 33-36). It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the second layer have higher resistance to wear by adjusting the hardness, elasticity, shock absorbing capability, and luster of the two elastomeric materials in order to provide a material with improved durability on the outside layers.

Response to Arguments

11. Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive.

12. Applicant argues that Gould teaches the guard plates are encapsulated in an elastomeric material, and are not affixed to a top surface of the fabric substrate.

Applicant also argues that Gould teaches away from affixing the plate to provide greater material flexibility. However, Gould still meets the claim limitation, because the claim recites the "plate assemblies are affixed to a top surface of the fabric substrate." The plates of Gould are affixed to a top surface of the fabric substrate by way of the elastomeric material. Applicant's claims do not recite the manner in which the plates are affixed to the fabric. The plates of Gould are affixed, or connected with the fabric via the elastomeric material.

13. Applicant argues that claim 1 has been amended to clarify that the first layer of each guard plate is structural to the guard plates themselves, and is not merely glue

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used to affix platelets. However, the glue in Fortier could be considered part of the guard plate, and thus be considered the first layer of the guard plate. If the glue is not inherently coterminous with the plates in the Fortier reference, the Examiner has provided motivation above in the rejection for providing the glue in a coterminous fashion to the plates. The glue is considered structural to the guard plate because it has the same shape as the guard plate.

14. Applicant argues that Gould does not disclose non-overlapping guard plate assemblies. Additionally, Applicant argues that Gould does not disclose a single layer of guard plate assemblies. Applicant's claim 15 does recite the fabric substrate comprises a single layer of non-overlapping guard plates." However, the claim does not preclude other layers of guard plates. The claim only recites that the guard plates within a single layer do not overlap. As seen in Figure 8A of Gould, a single layer of guard plates do not overlap. Other layers may have guard plates that overlap the first layer, but this is not precluded from the claim.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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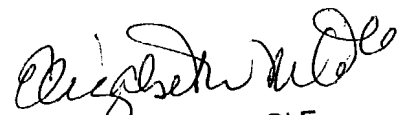
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ELIZABETH M. COLE
PRIMARY EXAMINER